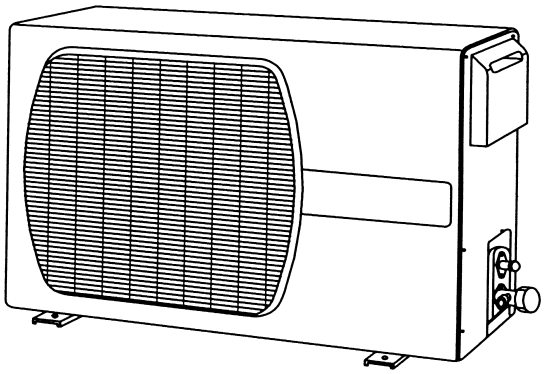
TECHNICAL DATA
& SERVICE MANUAL

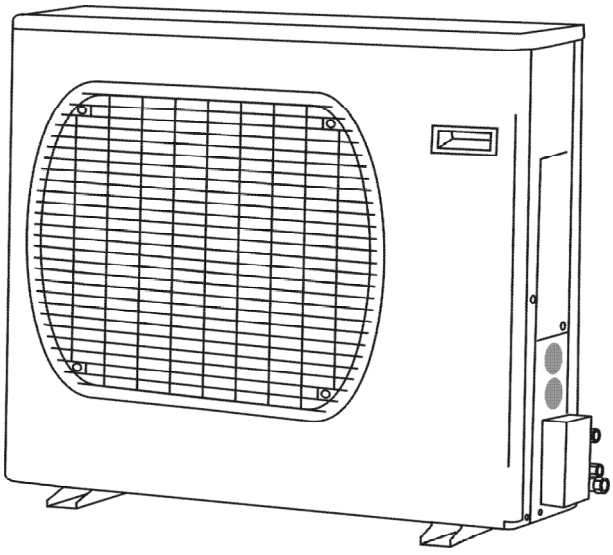
OUTDOOR UNIT: GRV180C5TA-
GRV180C5TAB-
GRV180L5TA-
GRV180L5TAB-
GRV220C5TA-

SPLIT SYSTEM AIR CONDITIONER

Model No.	Product Code No.
GRV180C5TA-	387107059
GRV180C5TAB-	387107068
GRV180L5TA-	387107060
GRV180L5TAB-	387107069



Model No.	Product Code No.
GRV220C5TA-	387107062



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IMPORTANT!
Please read before installation

This air conditioning system meets strict safety and operating standards.
For the installer or service person, it is important to install or service the system so that it operates safely and efficiently.

For safe installation and trouble-free operation, you must:
- Carefully read this instruction booklet before beginning.
- Follow each installation or repair step exactly as shown.
- Observe all local, state and national electrical codes.
- Pay close attention to all warning and caution notices given in this manual.
- The unit must be supplied with a dedicated electrical line.

WARNING

This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.

CAUTION

This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.

If necessary, get help
These instructions are all you need for most installation sites and maintenance conditions.
If you require help for a special problem, contact our sale/service outlet or your certified dealer for additional instructions.

In case of improper installation
The manufacturer shall in no way be responsible for improper installation or maintenance service, including failure to follow the instructions in this document.

SPECIAL PRECAUTIONS

- During installation, connect before the refrigerant system and then the wiring one; proceed in the reverse orden when removing the units.

WARNING **When wiring**

ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH. ONLY A QUALIFIED, EXPERIENCED ELECTRICIANS SHOULD ATTEMPT TO WIRE THIS SYSTEM.

- Do not supply power to the unit until all wiring and tubing are completed or reconnected and checked, to ensure the grounding.
- Highly dangerous electrical voltages are used in this system. Carefully refer to the wiring diagram and these instructions when wiring.
  Improper connections and inadequate grounding can cause **accidental injury and death**.
- **Ground the unit** following local electrical codes.
- The Yellow/Green wire cannot be used for any connection different from the ground connection.
- Connect all wiring tightly. Loose wiring may cause overheating at connection points and a possible fire hazard.
- Do not allow wiring to touch the refrigerant tubing, compressor, or any moving parts of the fan.
- Do not use multi-core cable when wiring the power supply and control lines. Use separate cables for each type of line.

When transporting
Be careful when picking up and moving the indoor and outdoor units. Get a partner to help, and bend your knees when lifting to reduce strain on your back. Sharp edges or thin aluminium fins on the air conditioner can cut your fingers.

When installing...
... In a ceiling or wall
Make sure the ceiling/wall is strong enough to hold the unit-weight. It may be necessary to build a strong wooden or metal frame to provide added support.

... In a room
Properly insulate any tubing run inside a room to prevent "sweating", which can cause dripping and water damage to walls and floors.

... In moist or uneven locations
Use a raised concrete base to provide a solid level foundation for the outdoor unit.
This prevents damage and abnormal vibrations.

... In area with strong winds
Securely anchor the outdoor unit down with bolts and a metal frame. Provide a suitable air baffle.

... In a snowy area (for heat pump-type systems)
Install the outdoor unit on a raised platform that is higher than drifting snow. Provide snow vents.

When connecting refrigerant tubing
- Keep all tubing runs as short as possible.
- Use the flare method for connecting tubing.
- Apply refrigerant lubricant to the matching surfaces of the flare and union tubes before connecting them; screw by hand and then tighten the nut with a torque wrench for a leak-free connection.
- Check carefully for leaks before starting the test run.

NOTE:
Depending on the system type, liquid and gas lines may be either narrow or wide. Therefore, to avoid confusion, the refrigerant tubing for your particular model is specified as narrow tube for liquid, wide tube for gas.

When servicing
- Turn the power OFF at the main power board before opening the unit to check or repair electrical parts and wiring.
- Keep your fingers and clothing away from any moving parts.
- Clean up the site after the work, remembering to check that no metal scraps or bits of wiring have been left inside the unit being serviced.
- Ventilate the room during the installation or testng the refrigeration system; make sure that, after the installation, no gas leaks are present, because this could produce toxic gas and dangerous if in contact with flames or heat-sources.

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1. OPERATING RANGE

	Temperature	Indoor Air Intake Temp.	Outdoor Air Intake Temp.
Cooling	Maximum	32°C D.B. / 23°C W.B.	43°C D.B.
	Minimum	19°C D.B. / 14°C W.B.	**(*)**19°C D.B.

(*) SCL MODEL : -15°C D.B.

2. SPECIFICATIONS

2-1 Unit Specifications

GRV180C5TA-

Power source	220 - 240V ~ 50Hz

Voltage rating	230V

Performance *	**MCAV180C5VA-**		Cooling
Capacity		kW	5,00
		BTU/h	17063
Air circulation (High)		m^3/h	760
Moisture removal (High)		Liters/h	2,3

Electrical Rating		Cooling
Available voltage range	V	198 ~ 264
Running amperes	A	10,00
Power input	W	2200
Power factor	%	96
C.O.P.	W/W	2,3
Compressor locked rotor amperes	A	46

Features			
Fan speed			1(Hi)
Compressor			Rotary (Hermetic)
Refrigerant / Amount charged at shipment		g	R407C / 1760
Refrigerant control			Capillary tube
Operation Sound	Hi	dB-A	47
Refrigerant tubing connections			Flare type
Max. allowable tubing length at shipment		m	7,5
Refrigerant	Narrow tube	mm(in.)	6,35 (1/4")
tube diameter	Wide tube	mm(in.)	12,7(1/2")

Dimensions & Weight			
Unit dimensions	Height	mm	630
	Width	mm	830
	Depth	mm	305
Package dimensions	Height	mm	713
	Width	mm	994
	Depth	mm	413
Weight	Net	kg	52
	Shipping	kg	57
Shipping volume		m^3	0,29

DATA SUBJECT TO CHANGE WITHOUT NOTICE

Remarks:

Rating conditions are:

Cooling: Indoor air temperature 27°C D.B. / 19°C W.B.
Outdoor air temperature 35°C D.B. / 24°C W.B.

Heating: Indoor air temperature 20°C D.B.
Outdoor air temperature 7°C D.B. / 6°C W.B.

GRV180C5TAB-

Power source	220 - 240V ~ 50Hz

Voltage rating	230V

Performance *	**MCAV180C5VA-**		Cooling
Capacity		kW	5,00
		BTU/h	17063
Air circulation (High)		m^3/h	760
Moisture removal (High)		Liters/h	2,3

Electrical Rating		Cooling
Available voltage range	V	198 ~ 264
Running amperes	A	10,50
Power input	W	2250
Power factor	%	93
C.O.P.	W/W	2,2
Compressor locked rotor amperes	A	52

Features			
Fan speed			1(Hi)
Compressor			Rotary (Hermetic)
Refrigerant / Amount charged at shipment		g	R407C / 1660
Refrigerant control			Capillary tube
Operation Sound	Hi	dB-A	50
Refrigerant tubing connections			Flare type
Max. allowable tubing length at shipment		m	7,5
Refrigerant	Narrow tube	mm(in.)	6,35 (1/4")
tube diameter	Wide tube	mm(in.)	12,7(1/2")

Dimensions & Weight			
Unit dimensions	Height	mm	630
	Width	mm	830
	Depth	mm	305
Package dimensions	Height	mm	713
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Weight	Net	kg	52
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Shipping volume		m^3	0,29

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Remarks:

Rating conditions are:

Cooling: Indoor air temperature 27°C D.B. / 19°C W.B.
Outdoor air temperature 35°C D.B. / 24°C W.B.

Heating: Indoor air temperature 20°C D.B.
Outdoor air temperature 7°C D.B. / 6°C W.B.

* For other INDOOR UNITS' MODELS, please refer to catalogue

GRV180L5TA-

Power source	220 - 240V ~ 50Hz

Voltage rating	230V

Performance *	**MCAV180C5VA-**		Cooling
Capacity		kW	5,00
		BTU/h	17063
Air circulation (High)		m^3/h	760
Moisture removal (High)		Liters/h	2,3

Electrical Rating		Cooling
Available voltage range	V	198 ~ 264
Running amperes	A	10,00
Power input	W	2200
Power factor	%	96
C.O.P.	W/W	2,3
Compressor locked rotor amperes	A	46

Features			
Fan speed			1(Hi)
Compressor			Rotary (Hermetic)
Refrigerant / Amount charged at shipment		g	R407C / 1670
Refrigerant control			Capillary tube
Operation Sound	Hi	dB-A	47
Refrigerant tubing connections			Flare type
Max. allowable tubing length at shipment		m	7,5
Refrigerant	Narrow tube	mm(in.)	6,35 (1/4")
tube diameter	Wide tube	mm(in.)	12,7(1/2")

Dimensions & Weight			
Unit dimensions	Height	mm	630
	Width	mm	830
	Depth	mm	305
Package dimensions	Height	mm	713
	Width	mm	994
	Depth	mm	413
Weight	Net	kg	52
	Shipping	kg	57
Shipping volume		m^3	0,29

DATA SUBJECT TO CHANGE WITHOUT NOTICE

Remarks:

Rating conditions are:

Cooling: Indoor air temperature 27°C D.B. / 19°C W.B.
Outdoor air temperature 35°C D.B. / 24°C W.B.

Heating: Indoor air temperature 20°C D.B.
Outdoor air temperature 7°C D.B. / 6°C W.B.

GRV180L5TAB-

Power source	220 - 240V ~ 50Hz

Voltage rating	230V

Performance *	**MCAV180C5VA-**		Cooling
	Capacity	kW	5,00
		BTU/h	17063
	Air circulation (High)	m^3/h	760
	Moisture removal (High)	Liters/h	2,3

Electrical Rating		Cooling
Available voltage range	V	198 ~ 264
Running amperes	A	10,50
Power input	W	2250
Power factor	%	93
C.O.P.	W/W	2,2
Compressor locked rotor amperes	A	52

Features			
Fan speed			1(Hi)
Compressor			Rotary (Hermetic)
Refrigerant / Amount charged at shipment		g	R407C / 1660
Refrigerant control			Capillary tube
Operation Sound	Hi	dB-A	50
Refrigerant tubing connections			Flare type
Max. allowable tubing length at shipment		m	7,5
Refrigerant	Narrow tube	mm(in.)	6,35 (1/4")
tube diameter	Wide tube	mm(in.)	12,7(1/2")

Dimensions & Weight			
Unit dimensions	Height	mm	630
	Width	mm	830
	Depth	mm	305
Package dimensions	Height	mm	713
	Width	mm	994
	Depth	mm	413
Weight	Net	kg	52
	Shipping	kg	57
Shipping volume		m^3	0,29

DATA SUBJECT TO CHANGE WITHOUT NOTICE

Remarks:

Rating conditions are:

Cooling: Indoor air temperature 27°C D.B. / 19°C W.B.
Outdoor air temperature 35°C D.B. / 24°C W.B.

Heating: Indoor air temperature 20°C D.B.
Outdoor air temperature 7°C D.B. / 6°C W.B.

* For other INDOOR UNITS' MODELS, please refer to catalogue

GRV220C5TA-

Power source	220 - 240V ~ 50Hz

Voltage rating	230V

Performance *	**MCAV220C5VA-**		Cooling
Capacity		kW	5,90
		BTU/h	20134
Air circulation (High)		m^3/h	830
Moisture removal (High)		Liters/h	3,3

Electrical Rating		Cooling
Available voltage range	V	198 ~ 264
Running amperes	A	13,00
Power input	W	2750
Power factor	%	92
C.O.P.	W/W	2,1
Compressor locked rotor amperes	A	70

Features			
Fan speed			1(Hi)
Compressor			Rotary (Hermetic)
Refrigerant / Amount charged at shipment		g	R407C / 2400
Refrigerant control			Capillary tube
Operation Sound	Hi	dB-A	50
Refrigerant tubing connections			Flare type
Max. allowable tubing length at shipment		m	7,5
Refrigerant	Narrow tube	mm(in.)	6,35 (1/4")
tube diameter	Wide tube	mm(in.)	15,88 (5/8")

Dimensions & Weight			
Unit dimensions	Height	mm	835
	Width	mm	850
	Depth	mm	305
Package dimensions	Height	mm	913
	Width	mm	1000
	Depth	mm	400
Weight	Net	kg	67,0
	Shipping	kg	76,0
Shipping volume		m^3	0,37

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Remarks:

Rating conditions are:

Cooling: Indoor air temperature 27°C D.B. / 19°C W.B.
Outdoor air temperature 35°C D.B. / 24°C W.B.

Heating: Indoor air temperature 20°C D.B.
Outdoor air temperature 7°C D.B. / 6°C W.B.

2-2 Major Component Specifications

Outdoor Unit: GRV180C5TA-

Compressor				
Type				Rotary (Hermetic)
Compressor model				80807045B C-2RN170H5W
Nominal output			W	1700
Compressor oil…Amount			cc.	FV68S…800
Coil resistance (Ambient temp. 25°C)			Ω	C-R: 1,353 C-S: 3,422
Safety devices	Type			Internal protector
	Overload relay			-
	Operating Temp.	Open	°C	Automatic opening
		Close	°C	Automatic reclosining
	Operating amp.(Ambient temp.25°C)			-
Run capacitor			µF	40
			VAC	400

Fan & Fan Motor				
Type				Propeller
Q'ty ……. Dia.				1…. Ø 400
Fan motor model…Q'ty				SMEN 5192672 OR / KFG6S-51SA5P - 1
No. Of poles…rpm (230 V, High)				6…910 / 6…908
Nominal output			W	43 / 40
Coil resistance (Ambient temp. 20 °C)			Ω	BRN-WHT: 83,4 / 98,5
			Ω	WHT-PNK: 218,7 / 201
			Ω	
Safety devices	Type			Internal thermal protector
	Operating temp.	Open	°C	130 ± 5
		Close	°C	83 ± 15
Run capacitor			µF	2
			VAC	440

Heat Exch. Coil		
Coil		Aluminium plate fin / Copper tube
Rows		2
Fin pitch	mm	1,8
Face area	m^2	0,508

External Finish	Acrylic baked-on enamel finish

DATA SUBJECT TO CHANGE WITHOUT NOTICE

Outdoor Unit: GRV180C5TAB-

Compressor				
Type				Rotary (Hermetic)
Compressor model				4JS350EAA(JSM671 - 48)
Nominal output			W	1700
Compressor oil…Amount			cc.	RB68A or FREOL ALPHA68M 700
Coil resistance (Ambient temp. 20°C)			Ω	C-R: 0,957
			Ω	C-S: 3,617
Safety devices	Type			Internal protector
	Operating Temp.	Open	°C	Automatic opening
		Close	°C	Automatic reclosining
Run capacitor			µF	45
			VAC	400

Fan & Fan Motor				
Type				Propeller
Q'ty ……. Dia.				1…. Ø 400
Fan motor model…Q'ty				SMEN 5192672 OR / KFG6S-51SA5P - 1
No. Of poles…rpm (230 V, High)				6…910 / 6…908
Nominal output			W	43 / 40
Coil resistance (Ambient temp. 20 °C)			Ω	BRN-WHT: 83,4 / 98,5
			Ω	WHT-PNK: 218,7 / 201
			Ω	
Safety devices	Type			Internal thermal protector
	Operating temp.	Open	°C	130 ± 5
		Close	°C	83 ± 15
Run capacitor			µF	2
			VAC	440

Heat Exch. Coil		
Coil		Aluminium plate fin / Copper tube
Rows		2
Fin pitch	mm	1,8
Face area	m^2	0,508

External Finish	Acrylic baked-on enamel finish

DATA SUBJECT TO CHANGE WITHOUT NOTICE

Outdoor Unit: GRV180L5TA-

Compressor				
Type				Rotary (Hermetic)
Compressor model				80807045B C-2RN170H5W
Nominal output			W	1700
Compressor oil…Amount			cc.	FV68S…800
Coil resistance (Ambient temp. 25°C)			Ω	C-R: 1,353
			Ω	C-S: 3,422
Safety devices	Type			Internal protector
	Overload relay			-
	Operating Temp.	Open	°C	Automatic opening
		Close	°C	Automatic reclosining
	Operating amp.(Ambient temp.25°C)			-
Run capacitor			µF	40
			VAC	400
Crank case heater				240 V - 30 W

Fan & Fan Motor				
Type				Propeller
Q'ty ……. Dia.				1…. Ø 400
Fan motor model…Q'ty				SMEN 5192672 OR / KFG6S-51SA5P - 1
No. Of poles…rpm (230 V, High)				6…910 / 6…908
Nominal output			W	43 / 40
Coil resistance (Ambient temp. 20 °C)			Ω	BRN-WHT: 83,4 / 98,5
			Ω	WHT-PNK: 218,7 / 201
Safety devices	Type			Internal thermal protector
	Operating temp.	Open	°C	130 ± 5
		Close	°C	83 ± 15
Run capacitor			µF	2
			VAC	440

Heat Exch. Coil		
Coil		Aluminium plate fin / Copper tube
Rows		2
Fin pitch	mm	1,8
Face area	m^2	0,508

External Finish	Acrylic baked-on enamel finish

DATA SUBJECT TO CHANGE WITHOUT NOTICE

Outdoor Unit: GRV180L5TAB-

Controller PCB	**Johnson Control**

Compressor				
Type				Rotary (Hermetic)
Compressor model				4JS350EAA(JSM671 - 48)
Nominal output			W	1700
Compressor oil…Amount			cc.	RB68A or FREOL ALPHA68M 700
Coil resistance (Ambient temp. 20°C)			Ω	C-R: 0,957
			Ω	C-S: 3,617
Safety devices	Type			Internal protector
	Overload relay			-
	Operating Temp.	Open	°C	Automatic opening
		Close	°C	Automatic reclosining
	Operating amp.(Ambient temp.25°C)			-
Run capacitor			µF	45
			VAC	400
Crank case heater				240 V - 30 W

Fan & Fan Motor				
Type				Propeller
Q'ty ……. Dia.				1…. Ø 400
Fan motor model…Q'ty				SMEN 5192672 OR / KFG6S-51SA5P - 1
No. Of poles…rpm (230 V, High)				6…910 / 6…908
Nominal output			W	43 / 40
Coil resistance (Ambient temp. 20 °C)			Ω	BRN-WHT: 83,4 / 98,5
			Ω	WHT-PNK: 218,7 / 201
Safety devices	Type			Internal thermal protector
	Operating temp.	Open	°C	130 ± 5
		Close	°C	83 ± 15
Run capacitor			µF	2
			VAC	440

Heat Exch. Coil			
Coil			Aluminium plate fin / Copper tube
Rows			2
Fin pitch		mm	1,8
Face area		m^2	0,508

External Finish	Acrylic baked-on enamel finish

DATA SUBJECT TO CHANGE WITHOUT NOTICE

Outdoor Unit: GRV220C5TA-

Compressor					
Type				Rotary (Hermetic)	
Compressor model				80244035 C-RN220H5A	
Nominal output			W	2200	
Compressor oil…Amount			cc.	FV68S…1350	
Coil resistance (Ambient temp. 25°C)			Ω	C-R: 0,777	
			Ω	C-S: 2,408	
Safety devices	Type			Internal protector	External protector
	Overload relay			-	OL-D24
	Operating Temp.	Open	°C	Automatic opening	150 ± 5
		Close	°C	Automatic reclosining	63 ± 10
	Operating amp.(Ambient temp.25°C)			-	Trip in 6 to 16 sec.at 59 A
Run capacitor			µF	40	
			VAC	400	
Crank case heater				240 V - 30 W	

Fan & Fan Motor				
Type				Propeller
Q'ty ……. Dia.				1…. Ø 460
Fan motor model…Q'ty				KFC6S-51B5P OR / KFG6S-51SA5P - 1
No. Of poles…rpm (230 V, High)				6…860 / 6…856
Nominal output			W	50 / 62,6
Coil resistance (Ambient temp. 20 °C)			Ω	BRN-WHT: 95,9 / 98,1
			Ω	WHT-YEL: 55,4 / 56,7
			Ω	YEL - PNK : 7,2 / 7,4
Safety devices	Type			Internal thermal protector
	Operating temp.	Open	°C	130 ± 5
		Close	°C	83 ± 15
Run capacitor			µF	5,0
			VAC	440

Heat Exch. Coil		
Coil		Aluminium plate fin / Copper tube
Rows		2
Fin pitch	mm	2
Face area	m^2	0.610

External Finish	Acrylic baked-on enamel finish

DATA SUBJECT TO CHANGE WITHOUT NOTICE

2-3 Other Component Specifications

Outdoor Unit: **GRV180C5TA-**
GRV180C5TAB-
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Power Relay		
Type		G7L-2A-TUB
Coil Rating		AC 200-240 V ~ 50/60 Hz
Coil resistance (at 23°C)	kΩ	21 ± 15%
Contact Rating		AC 220 V , 25 A

Pressure Transducer (*Johnson Control)		
Type		P35 AC
Range	Bar	14 to 24
Factory Setting	Bar	20

(*Only for GRV180L5TAB)

Outdoor Unit: **GRV220C5TA-**

Thermostat (Fan Speed Control 23S)					
Type		YTB-S383			
Switching Temp.	°C	high	→	LOW	28.5 ± 1
	°C	low	→	HIGH	31 ± 1

Magnetic Contactor (MG)			
Type		HE-20FT31B	or CLK-20J-S20A
Coil Rating		AC 220-240 V ~ 50 H	AC 220-240 V ~ 50 Hz
Coil resistance (at 20°C)	Ω	1.050 ± 15% (at 25°C)	1116 (at 20°C)
Contact Rating (Main)		AC 220 V , 20 A	AC 240 V , 20 A

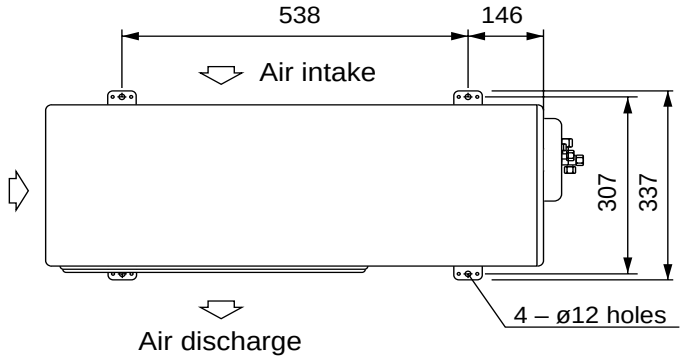
3. DIMENSIONAL DATA

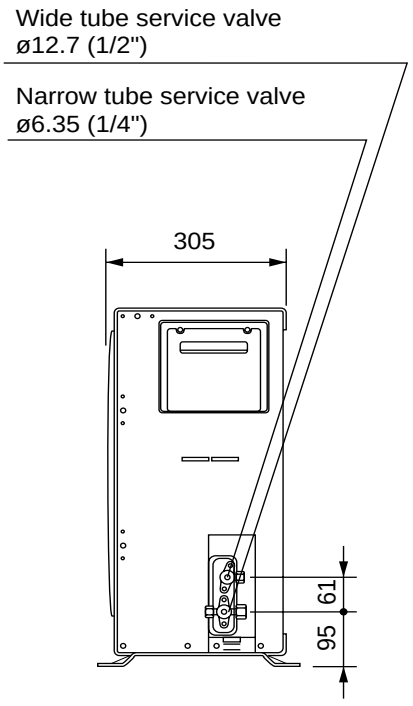
Outdoor Unit: **GRV180C5TA-**

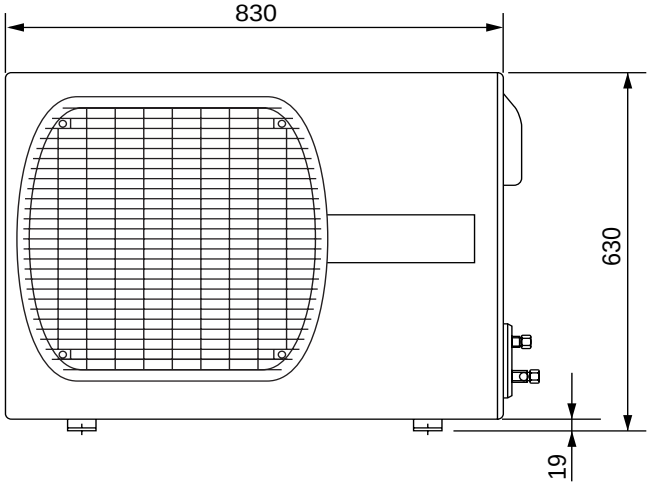
GRV180C5TAB-

GRV180L5TA-

GRV180L5TAB-

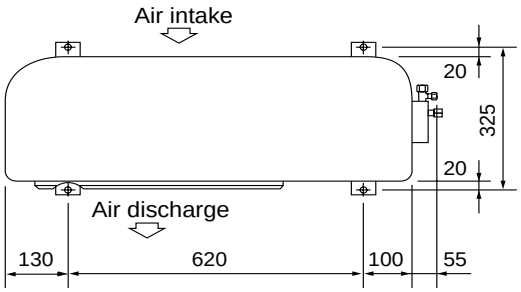


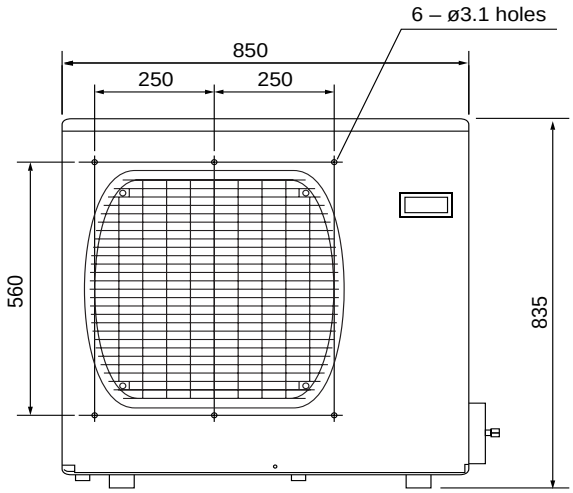


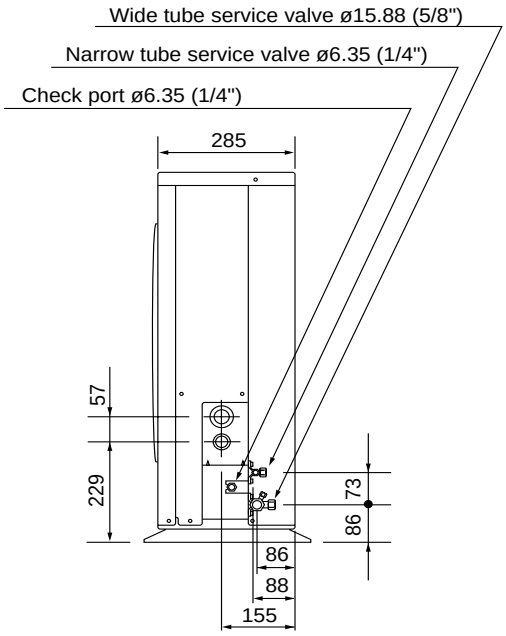


Unit : mm

Outdoor Unit: GRV220C5TA-



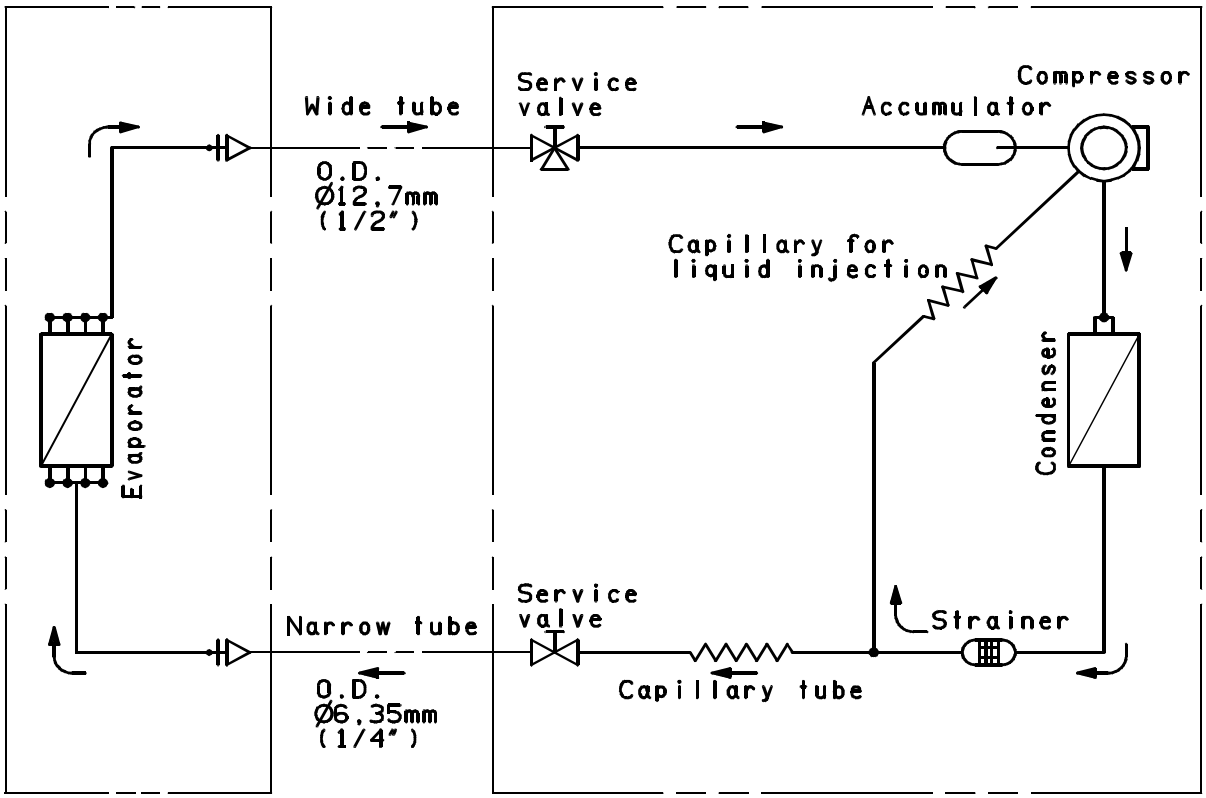




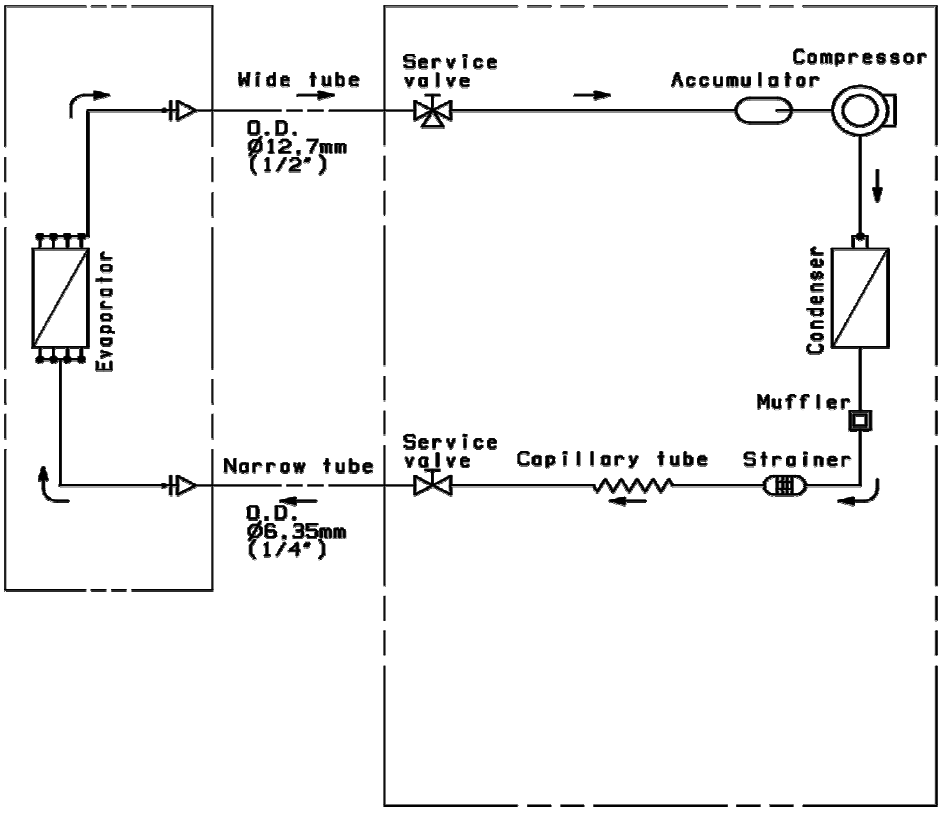
Unit : mm

4. REFRIGERANT FLOW DIAGRAM

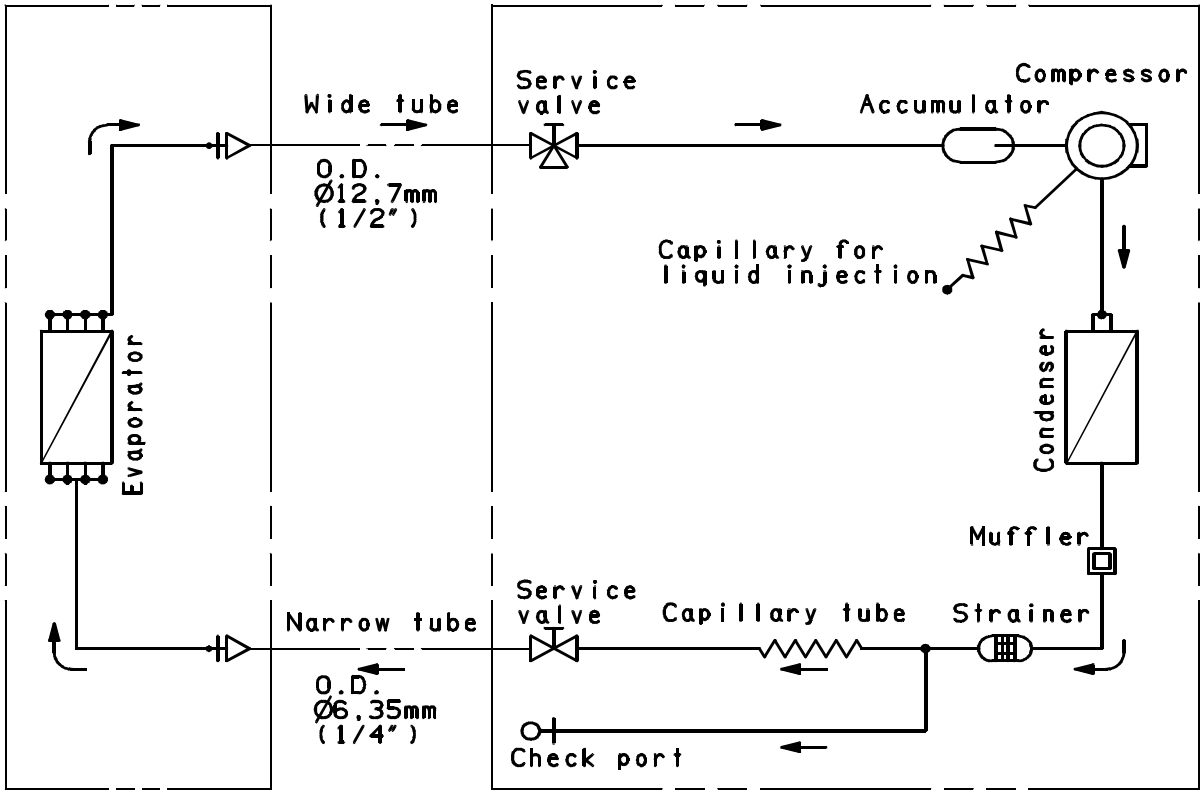
Indoor Unit: **Outdoor Unit: GRV180C5TA-**



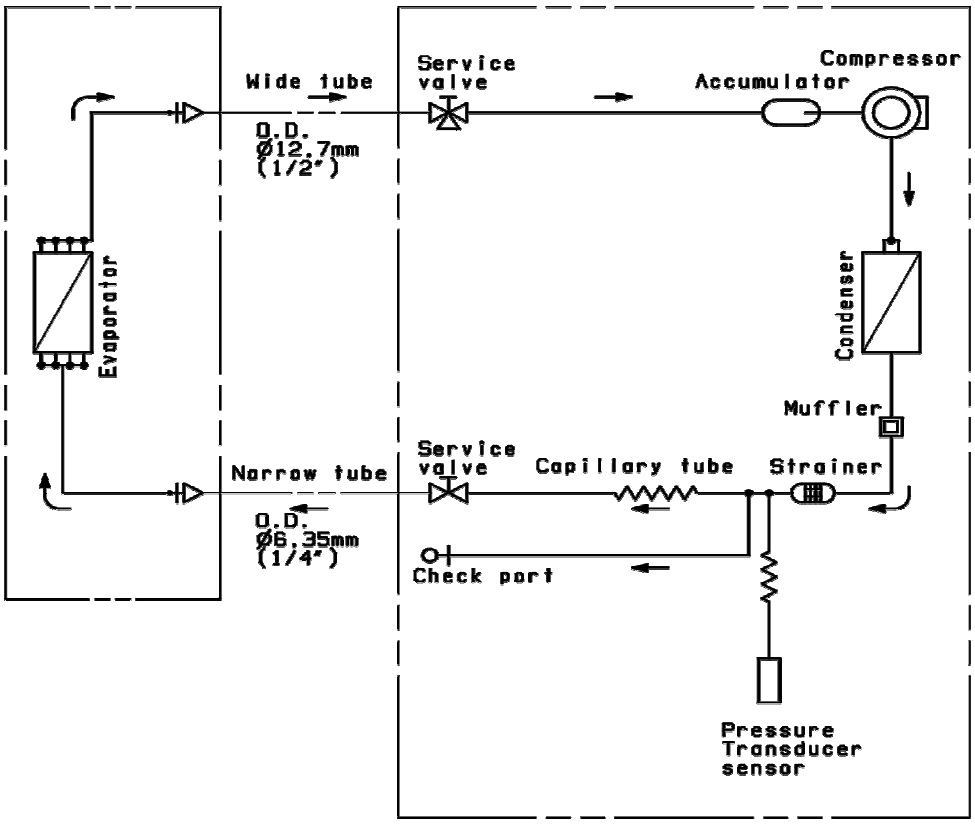
Indoor Unit: **Outdoor Unit: GRV180C5TAB-**



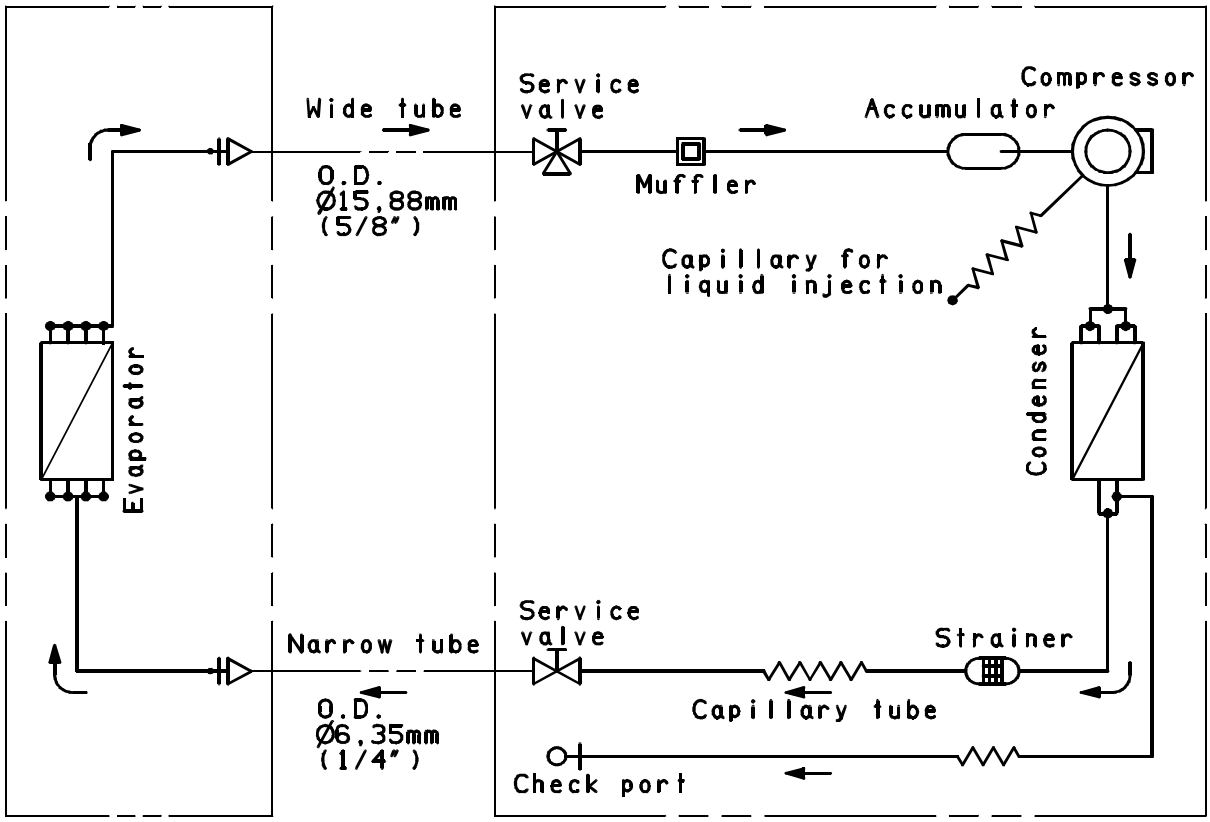
Indoor Unit: **Outdoor Unit: GRV180L5TA-**



Indoor Unit: **Outdoor Unit: GRV180L5TAB-**



Indoor Unit: **Outdoor Unit:** **GRV220C5TA-**

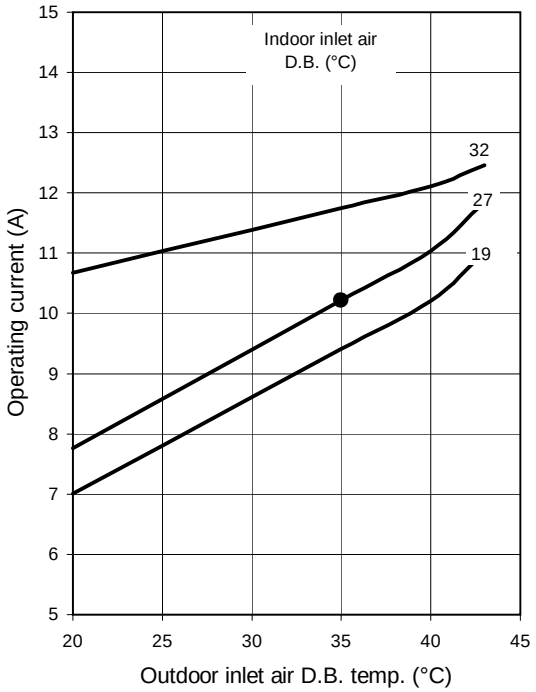


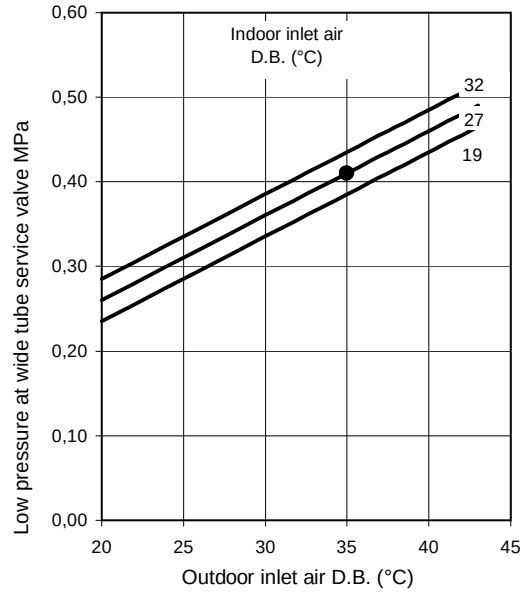
5. PERFORMANCE DATA

5-1 Performance charts

GRV180C5TA-

■ Cooling Characteristics





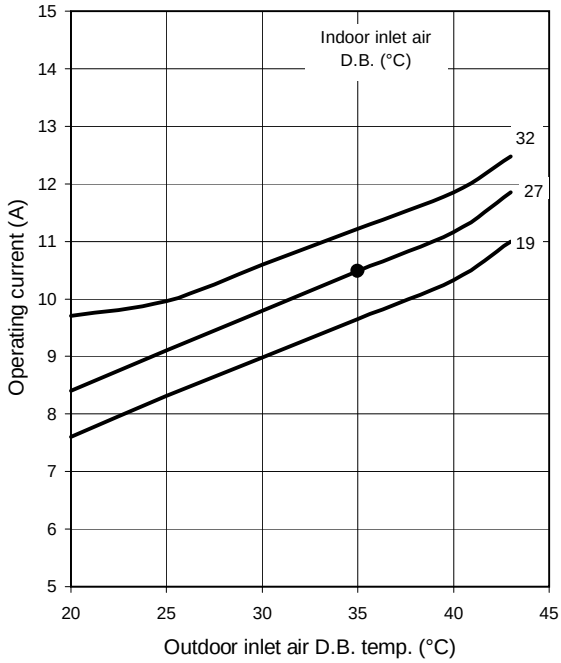
Overload prevention operates to protect the air conditioner when outdoor ambient temperature reaches extremely high values in heating mode.

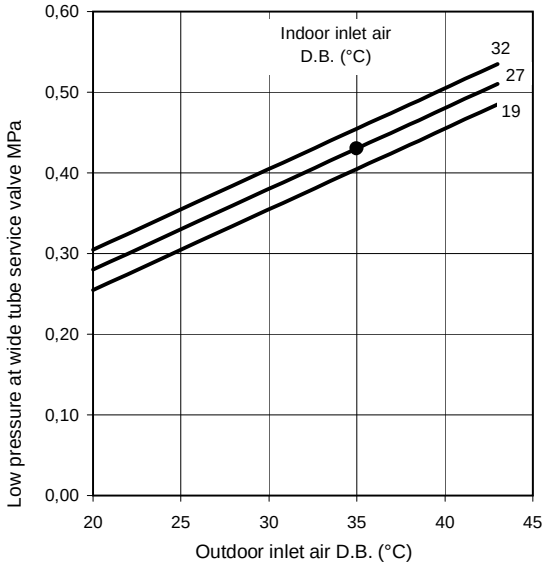
● Points of Rating condition

Data referred to MCAV180C5VA-

GRV180C5TAB-

■ Cooling Characteristics





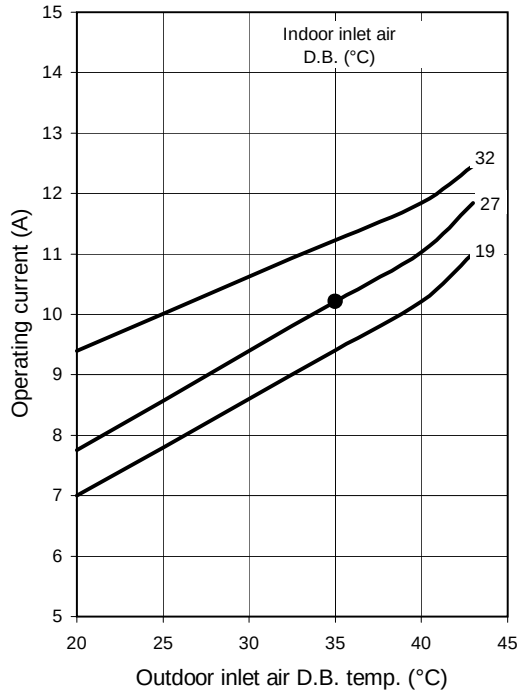
Overload prevention operates to protect the air conditioner when outdoor ambient temperature reaches extremely high values in heating mode.

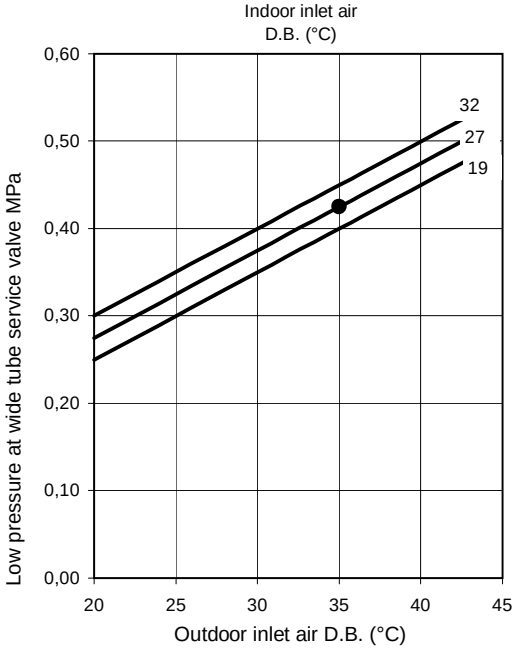
● Points of Rating condition

Data referred to MCAV180C5VA-

GRV180L5TA-

■ Cooling Characteristics





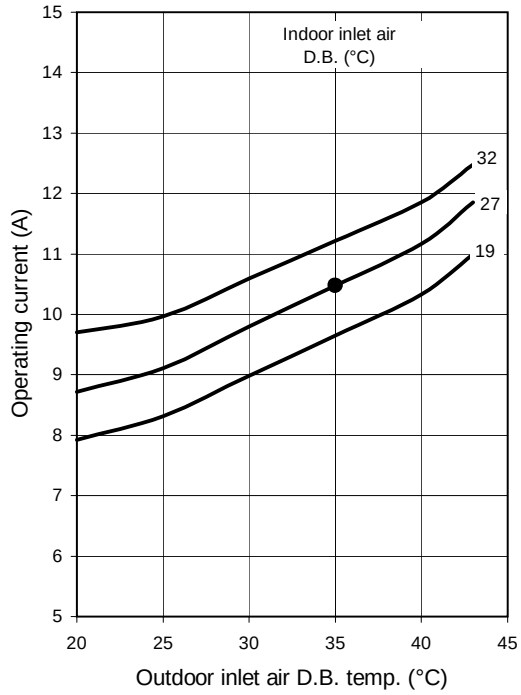
Overload prevention operates to protect the air conditioner when outdoor ambient temperature reaches extremely high values in heating mode.

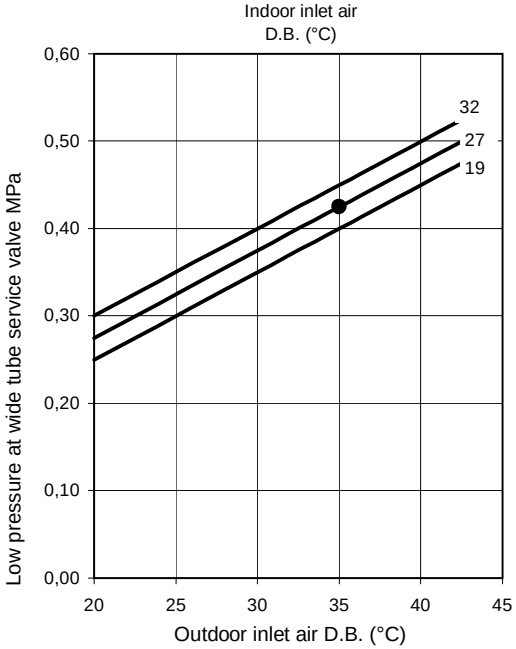
● Points of Rating condition

Data referred to MCAV180C5VA-

GRV180L5TAB-

■ Cooling Characteristics





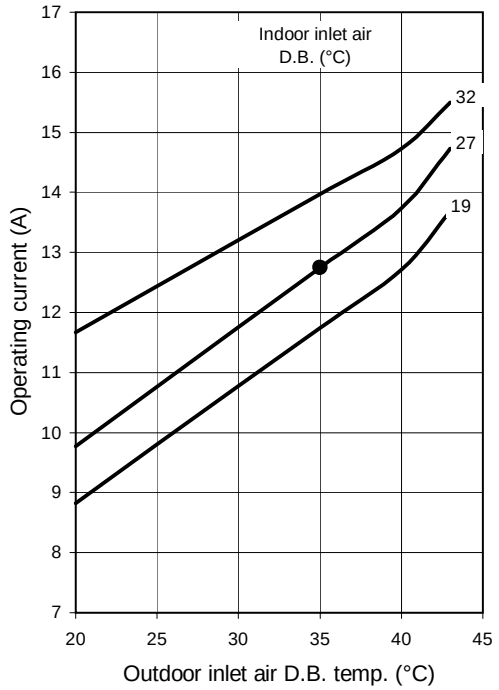
Overload prevention operates to protect the air conditioner when outdoor ambient temperature reaches extremely high values in heating mode.

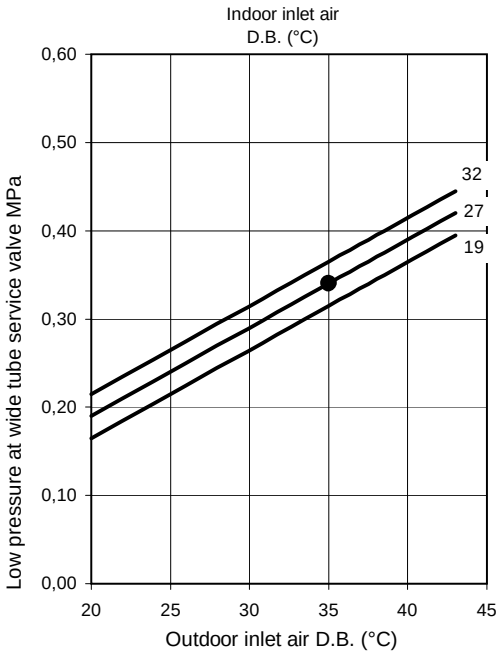
● Points of Rating condition

Data referred to MCAV180C5VA-

GRV220C5TA-

■ Cooling Characteristics





Overload prevention operates to protect the air conditioner when outdoor ambient temperature reaches extremely high values in heating mode.

● Points of Rating condition

Data referred to MCAV220C5VA-

5-2 Cooling Capacity

OUTDOOR UNIT: **GRV180C5TA-**
INDOOR UNIT: **MCAV180C5VA-**

220 - 240V ~ 50Hz

RATING CAPACITY			5,00 kW		moisture removal		2,3 l/h	
COMP. POWER INPUT			2,044 kW		max comp input		2,494 kW	
AIR FLOW RATE			760 m³/h					
EVAPORATOR		CONDENSER						
ENT.TEMP. °C		OUTDOOR AMBIENT TEMP. °C						
W.B.	D.B.		20	25	30	35	40	43
		TC	5,05	4,74	4,60	4,38	4,11	3,79
		CM	1,43	1,59	1,76	1,92	2,09	2,25
	21	SHC	3,50	3,25	3,18	3,08	2,95	2,79
	23	SHC	3,96	3,68	3,61	3,50	3,37	3,22
15	25	SHC	4,40	4,10	4,02	3,91	3,78	3,63
	27	SHC	4,85	4,54	4,45	4,34	4,11	3,79
	29	SHC	5,05	4,74	4,60	4,38	4,11	3,79
	31	SHC	5,05	4,74	4,60	4,38	4,11	3,79
		TC	5,41	5,13	4,93	4,70	4,41	4,07
		CM	1,49	1,66	1,82	1,98	2,15	2,31
	21	SHC	3,02	2,84	2,76	2,65	2,52	2,36
	23	SHC	3,48	3,27	3,17	3,07	2,93	2,78
17	25	SHC	3,93	3,70	3,60	3,49	3,36	3,20
	27	SHC	4,39	4,13	4,01	3,90	3,77	3,62
	29	SHC	4,85	4,56	4,43	4,33	4,20	4,03
	31	SHC	5,28	4,99	4,85	4,70	4,41	4,07
		TC	5,75	5,43	5,25	5,00	4,70	4,33
		CM	1,55	1,72	1,88	2,04	2,21	2,37
	21	SHC	2,54	2,38	2,30	2,20	2,07	1,91
	23	SHC	2,99	2,80	2,73	2,62	2,49	2,34
19	25	SHC	3,45	3,21	3,14	3,03	2,91	2,75
	27	SHC	3,88	3,62	3,57	3,39	3,33	3,17
	29	SHC	4,34	4,02	3,98	3,87	3,75	3,59
	31	SHC	4,80	4,45	4,40	4,29	4,16	4,01
		TC	6,05	5,76	5,57	5,30	4,98	4,59
		CM	1,84	1,96	2,08	2,20	2,32	2,43
	23	SHC	2,48	2,35	2,27	2,16	2,03	1,88
21	25	SHC	2,94	2,75	2,68	2,59	2,46	2,30
	27	SHC	3,39	3,17	3,11	3,00	2,88	2,72
	29	SHC	3,85	3,57	3,52	3,42	3,29	3,14
	31	SHC	4,28	3,99	3,95	3,84	3,72	3,57
		TC	6,45	6,09	5,89	5,57	5,21	4,85
		CM	2,14	2,21	2,28	2,35	2,42	2,49
23	25	SHC	2,42	2,28	2,21	2,09	1,96	1,83
	27	SHC	2,88	2,67	2,62	2,50	2,37	2,24
	29	SHC	3,33	3,07	3,04	2,92	2,79	2,66
	31	SHC	3,79	3,51	3,47	3,34	3,21	3,09

TC: TOTAL COOLING CAPACITY kW
SHC: SENSIBLE HEAT CAPACITY kW
CM: COMPRESSOR INPUT kW

NOTE: Data referred to MCAV180C5VA-

OUTDOOR UNIT: **GRV180C5TAB-**
INDOOR UNIT: **MCAV180C5VA-**

220 - 240V ~ 50Hz

RATING CAPACITY			5,00 kW		moisture removal		2,3 l/h	
COMP. POWER INPUT			2,097 kW		max comp input		2,497 kW	
AIR FLOW RATE			760 m³/h					
EVAPORATOR		CONDENSER						
ENT.TEMP. °C		OUTDOOR AMBIENT TEMP. °C						
W.B.	D.B.		20	25	30	35	40	43
		TC	5,05	4,74	4,60	4,38	4,11	3,79
		CM	1,56	1,70	1,83	1,97	2,11	2,25
	21	SHC	3,50	3,25	3,18	3,08	2,95	2,79
	23	SHC	3,96	3,68	3,61	3,50	3,37	3,22
15	25	SHC	4,40	4,10	4,02	3,91	3,78	3,63
	27	SHC	4,85	4,54	4,45	4,34	4,11	3,79
	29	SHC	5,05	4,74	4,60	4,38	4,11	3,79
	31	SHC	5,05	4,74	4,60	4,38	4,11	3,79
		TC	5,41	5,13	4,93	4,70	4,41	4,07
		CM	1,62	1,76	1,90	2,03	2,17	2,31
	21	SHC	3,02	2,84	2,76	2,65	2,52	2,36
	23	SHC	3,48	3,27	3,17	3,07	2,93	2,78
17	25	SHC	3,93	3,70	3,60	3,49	3,36	3,20
	27	SHC	4,39	4,13	4,01	3,90	3,77	3,62
	29	SHC	4,85	4,56	4,43	4,33	4,20	4,03
	31	SHC	5,28	4,99	4,85	4,70	4,41	4,07
		TC	5,75	5,43	5,25	5,00	4,70	4,33
		CM	1,69	1,82	1,96	2,10	2,23	2,37
	21	SHC	2,54	2,38	2,30	2,20	2,07	1,91
	23	SHC	2,99	2,80	2,73	2,62	2,49	2,34
19	25	SHC	3,45	3,21	3,14	3,03	2,91	2,75
	27	SHC	3,88	3,62	3,57	3,39	3,33	3,17
	29	SHC	4,34	4,02	3,98	3,87	3,75	3,59
	31	SHC	4,80	4,45	4,40	4,29	4,16	4,01
		TC	6,05	5,76	5,57	5,30	4,98	4,59
		CM	1,78	1,91	2,04	2,17	2,30	2,43
	23	SHC	2,48	2,35	2,27	2,16	2,03	1,88
21	25	SHC	2,94	2,75	2,68	2,59	2,46	2,30
	27	SHC	3,39	3,17	3,11	3,00	2,88	2,72
	29	SHC	3,85	3,57	3,52	3,42	3,29	3,14
	31	SHC	4,28	3,99	3,95	3,84	3,72	3,57
		TC	6,45	6,09	5,89	5,57	5,21	4,85
		CM	1,87	1,99	2,12	2,25	2,37	2,50
23	25	SHC	2,42	2,28	2,21	2,09	1,96	1,83
	27	SHC	2,88	2,67	2,62	2,50	2,37	2,24
	29	SHC	3,33	3,07	3,04	2,92	2,79	2,66
	31	SHC	3,79	3,51	3,47	3,34	3,21	3,09

TC: TOTAL COOLING CAPACITY kW
SHC: SENSIBLE HEAT CAPACITY kW
CM: COMPRESSOR INPUT kW

NOTE: Data referred to MCAV180C5VA-

OUTDOOR UNIT: **GRV180L5TA-**
INDOOR UNIT: **MCAV180C5VA-**

220 - 240V ~ 50Hz

RATING CAPACITY			5,00 kW		moisture removal		2,3 l/h	
COMP. POWER INPUT			2,043 kW		max comp input		2,493 kW	
AIR FLOW RATE			760 m³/h					
EVAPORATOR		CONDENSER						
ENT.TEMP. °C		OUTDOOR AMBIENT TEMP. °C						
W.B.	D.B.		20	25	30	35	40	43
		TC	5,05	4,74	4,60	4,38	4,11	3,79
		CM	1,43	1,59	1,76	1,92	2,08	2,25
	21	SHC	3,50	3,25	3,18	3,08	2,95	2,79
	23	SHC	3,96	3,68	3,61	3,50	3,37	3,22
15	25	SHC	4,40	4,10	4,02	3,91	3,78	3,63
	27	SHC	4,85	4,54	4,45	4,34	4,11	3,79
	29	SHC	5,05	4,74	4,60	4,38	4,11	3,79
	31	SHC	5,05	4,74	4,60	4,38	4,11	3,79
		TC	5,41	5,13	4,93	4,70	4,41	4,07
		CM	1,49	1,65	1,82	1,98	2,15	2,31
	21	SHC	3,02	2,84	2,76	2,65	2,52	2,36
	23	SHC	3,48	3,27	3,17	3,07	2,93	2,78
17	25	SHC	3,93	3,70	3,60	3,49	3,36	3,20
	27	SHC	4,39	4,13	4,01	3,90	3,77	3,62
	29	SHC	4,85	4,56	4,43	4,33	4,20	4,03
	31	SHC	5,28	4,99	4,85	4,70	4,41	4,07
		TC	5,75	5,43	5,25	5,00	4,70	4,33
		CM	1,55	1,72	1,88	2,04	2,21	2,37
	21	SHC	2,54	2,38	2,30	2,20	2,07	1,91
	23	SHC	2,99	2,80	2,73	2,62	2,49	2,34
19	25	SHC	3,45	3,21	3,14	3,03	2,91	2,75
	27	SHC	3,88	3,62	3,57	3,39	3,33	3,17
	29	SHC	4,34	4,02	3,98	3,87	3,75	3,59
	31	SHC	4,80	4,45	4,40	4,29	4,16	4,01
		TC	6,05	5,76	5,57	5,30	4,98	4,59
		CM	1,72	1,86	2,00	2,15	2,29	2,43
	23	SHC	2,48	2,35	2,27	2,16	2,03	1,88
21	25	SHC	2,94	2,75	2,68	2,59	2,46	2,30
	27	SHC	3,39	3,17	3,11	3,00	2,88	2,72
	29	SHC	3,85	3,57	3,52	3,42	3,29	3,14
	31	SHC	4,28	3,99	3,95	3,84	3,72	3,57
		TC	6,45	6,09	5,89	5,57	5,21	4,85
		CM	1,88	2,00	2,13	2,25	2,37	2,49
23	25	SHC	2,42	2,28	2,21	2,09	1,96	1,83
	27	SHC	2,88	2,67	2,62	2,50	2,37	2,24
	29	SHC	3,33	3,07	3,04	2,92	2,79	2,66
	31	SHC	3,79	3,51	3,47	3,34	3,21	3,09

TC: TOTAL COOLING CAPACITY kW
SHC: SENSIBLE HEAT CAPACITY kW
CM: COMPRESSOR INPUT kW

NOTE: Data referred to MCAV180C5VA-

OUTDOOR UNIT: **GRV180L5TAB-**
INDOOR UNIT: **MCAV180C5VA-**

220 - 240V ~ 50Hz

RATING CAPACITY			5,00 kW		moisture removal		2,3 l/h	
COMP. POWER INPUT			2,097 kW		max comp input		2,497 kW	
AIR FLOW RATE			760 m³/h					
EVAPORATOR		CONDENSER						
ENT.TEMP. °C		OUTDOOR AMBIENT TEMP. °C						
W.B.	D.B.		20	25	30	35	40	43
		TC	5,05	4,74	4,60	4,38	4,11	3,79
		CM	1,56	1,70	1,83	1,97	2,11	2,25
	21	SHC	3,50	3,25	3,18	3,08	2,95	2,79
	23	SHC	3,96	3,68	3,61	3,50	3,37	3,22
15	25	SHC	4,40	4,10	4,02	3,91	3,78	3,63
	27	SHC	4,85	4,54	4,45	4,34	4,11	3,79
	29	SHC	5,05	4,74	4,60	4,38	4,11	3,79
	31	SHC	5,05	4,74	4,60	4,38	4,11	3,79
		TC	5,41	5,13	4,93	4,70	4,41	4,07
		CM	1,62	1,76	1,90	2,03	2,17	2,31
	21	SHC	3,02	2,84	2,76	2,65	2,52	2,36
	23	SHC	3,48	3,27	3,17	3,07	2,93	2,78
17	25	SHC	3,93	3,70	3,60	3,49	3,36	3,20
	27	SHC	4,39	4,13	4,01	3,90	3,77	3,62
	29	SHC	4,85	4,56	4,43	4,33	4,20	4,03
	31	SHC	5,28	4,99	4,85	4,70	4,41	4,07
		TC	5,75	5,43	5,25	5,00	4,70	4,33
		CM	1,69	1,82	1,96	2,10	2,23	2,37
	21	SHC	2,54	2,38	2,30	2,20	2,07	1,91
	23	SHC	2,99	2,80	2,73	2,62	2,49	2,34
19	25	SHC	3,45	3,21	3,14	3,03	2,91	2,75
	27	SHC	3,88	3,62	3,57	3,39	3,33	3,17
	29	SHC	4,34	4,02	3,98	3,87	3,75	3,59
	31	SHC	4,80	4,45	4,40	4,29	4,16	4,01
		TC	6,05	5,76	5,57	5,30	4,98	4,59
		CM	1,78	1,91	2,04	2,17	2,30	2,43
	23	SHC	2,48	2,35	2,27	2,16	2,03	1,88
21	25	SHC	2,94	2,75	2,68	2,59	2,46	2,30
	27	SHC	3,39	3,17	3,11	3,00	2,88	2,72
	29	SHC	3,85	3,57	3,52	3,42	3,29	3,14
	31	SHC	4,28	3,99	3,95	3,84	3,72	3,57
		TC	6,45	6,09	5,89	5,57	5,21	4,85
		CM	1,87	1,99	2,12	2,25	2,37	2,50
23	25	SHC	2,42	2,28	2,21	2,09	1,96	1,83
	27	SHC	2,88	2,67	2,62	2,50	2,37	2,24
	29	SHC	3,33	3,07	3,04	2,92	2,79	2,66
	31	SHC	3,79	3,51	3,47	3,34	3,21	3,09

TC: TOTAL COOLING CAPACITY kW
SHC: SENSIBLE HEAT CAPACITY kW
CM: COMPRESSOR INPUT kW

NOTE: Data referred to MCAV180C5VA-

OUTDOOR UNIT: **GRV220C5TA-**
INDOOR UNIT: **MCAV220C5VA-**

220 - 240V ~ 50Hz

RATING CAPACITY			5,90 kW		moisture removal		3,3 l/h	
COMP. POWER INPUT			2,551 kW		max comp input		3,101 kW	
AIR FLOW RATE			830 m³/h					
EVAPORATOR		CONDENSER						
ENT.TEMP. °C		OUTDOOR AMBIENT TEMP. °C						
W.B.	D.B.		20	25	30	35	40	43
		TC	5,96	5,59	5,43	5,17	4,85	4,48
		CM	1,80	2,00	2,20	2,40	2,60	2,79
	21	SHC	4,14	3,83	3,76	3,63	3,48	3,30
	23	SHC	4,67	4,35	4,26	4,13	3,98	3,80
15	25	SHC	5,19	4,84	4,75	4,62	4,46	4,28
	27	SHC	5,73	5,35	5,25	5,12	4,85	4,48
	29	SHC	5,96	5,59	5,43	5,17	4,85	4,48
	31	SHC	5,96	5,59	5,43	5,17	4,85	4,48
		TC	6,38	6,05	5,82	5,54	5,21	4,80
		CM	1,88	2,08	2,28	2,47	2,67	2,87
	21	SHC	3,56	3,35	3,26	3,13	2,98	2,78
	23	SHC	4,10	3,85	3,75	3,62	3,46	3,28
17	25	SHC	4,64	4,37	4,25	4,12	3,96	3,77
	27	SHC	5,18	4,87	4,73	4,60	4,45	4,27
	29	SHC	5,72	5,39	5,23	5,10	4,95	4,76
	31	SHC	6,23	5,89	5,72	5,54	5,21	4,80
		TC	6,79	6,41	6,20	5,90	5,54	5,10
		CM	1,96	2,15	2,35	2,55	2,75	2,95
	21	SHC	3,00	2,81	2,72	2,59	2,44	2,26
	23	SHC	3,53	3,30	3,22	3,09	2,94	2,76
19	25	SHC	4,07	3,78	3,71	3,58	3,44	3,25
	27	SHC	4,58	4,27	4,21	3,59	3,92	3,75
	29	SHC	5,12	4,75	4,69	4,57	4,43	4,23
	31	SHC	5,66	5,25	5,19	5,07	4,91	4,73
		TC	7,14	6,80	6,57	6,26	5,87	5,41
		CM	2,15	2,32	2,50	2,67	2,85	3,02
	23	SHC	2,93	2,77	2,68	2,55	2,40	2,22
21	25	SHC	3,47	3,25	3,17	3,05	2,90	2,72
	27	SHC	4,00	3,74	3,67	3,54	3,40	3,21
	29	SHC	4,54	4,21	4,16	4,04	3,89	3,71
	31	SHC	5,05	4,71	4,66	4,53	4,39	4,21
		TC	7,61	7,18	6,95	6,57	6,14	5,72
		CM	2,34	2,49	2,64	2,79	2,95	3,10
23	25	SHC	2,86	2,69	2,60	2,46	2,31	2,15
	27	SHC	3,40	3,15	3,09	2,95	2,80	2,64
	29	SHC	3,93	3,63	3,59	3,45	3,30	3,14
	31	SHC	4,47	4,14	4,09	3,94	3,78	3,64

TC: TOTAL COOLING CAPACITY kW
SHC: SENSIBLE HEAT CAPACITY kW
CM: COMPRESSOR INPUT kW

NOTE: Data referred to MCAV220C5VA-

6. ELECTRICAL DATA

6-1 Electrical characteristics

OUTDOOR UNIT: GRV180C5TA-

COOLING

			Indoor Unit	Outdoor unit		Complete Unit
			Fan Motor	Fan Motor	Compressor	
performance at			230V 1-Phase 50 Hz			
Rating conditions	Running Amps.	A	0,37	0,40	9,23	10,0
	Power input	Kw	0,070	0,086	2,044	2,200
Full load conditions	Running Amps.	A	0,37	0,40	11,23	12,0
	Power input	Kw	0,070	0,086	2,494	2,650

Rating Conditions: Indoor Air Temperature 27°C D.B. / 19°C W.B.
Outdoor Air Temperature 35°C D.B.
Full Load Conditions: Indoor Air Temperature 32°C D.B. / 23°C W.B.
Outdoor Air Temperature 43°C D.B.

NOTE: Data referred to indoor unit MCAV180C5VA- model.
For other indoor unit models there could be the same differences.

OUTDOOR UNIT: GRV180C5TAB-

COOLING

			Indoor Unit	Outdoor unit		Complete Unit
			Fan Motor	Fan Motor	Compressor	
performance at			230V 1-Phase 50 Hz			
Rating conditions	Running Amps.	A	0,37	0,44	9,7	10,5
	Power input	Kw	0,070	0,083	2,097	2,250
Full load conditions	Running Amps.	A	0,37	0,44	11,2	12,0
	Power input	Kw	0,070	0,083	2,497	2,650

Rating Conditions: Indoor Air Temperature 27°C D.B. / 19°C W.B.
Outdoor Air Temperature 35°C D.B.
Full Load Conditions: Indoor Air Temperature 32°C D.B. / 23°C W.B.
Outdoor Air Temperature 43°C D.B.

NOTE: Data referred to indoor unit MCAV180C5VA- model.
For other indoor unit models could be the same difference.

OUTDOOR UNIT: GRV180L5TA-

COOLING

			Indoor Unit	Outdoor unit		Complete Unit
			Fan Motor	Fan Motor	Compressor	
performance at			230V 1-Phase 50 Hz			
Rating conditions	Running Amps.	A	0,37	0,41	9,2	10,0
	Power input	Kw	0,070	0,087	2,043	2,200
Full load conditions	Running Amps.	A	0,37	0,41	11,2	12,0
	Power input	Kw	0,070	0,087	2,493	2,650

Rating Conditions: Indoor Air Temperature 27°C D.B. / 19°C W.B.
Outdoor Air Temperature 35°C D.B.
Full Load Conditions: Indoor Air Temperature 32°C D.B. / 23°C W.B.
Outdoor Air Temperature 43°C D.B.

NOTE: Data referred to indoor unit MCAV180C5VA- model.
For other indoor unit models could be the same difference.

OUTDOOR UNIT: GRV180L5TAB-

COOLING

			Indoor Unit	Outdoor unit		Complete Unit
			Fan Motor	Fan Motor	Compressor	
performance at			230V 1-Phase 50 Hz			
Rating conditions	Running Amps.	A	0,37	0,44	9,7	10,5
	Power input	Kw	0,070	0,083	2,097	2,250
Full load conditions	Running Amps.	A	0,37	0,44	11,2	12,0
	Power input	Kw	0,070	0,083	2,497	2,650

Rating Conditions: Indoor Air Temperature 27°C D.B. / 19°C W.B.
Outdoor Air Temperature 35°C D.B.
Full Load Conditions: Indoor Air Temperature 32°C D.B. / 23°C W.B.
Outdoor Air Temperature 43°C D.B.

NOTE: Data referred to indoor unit MCAV180C5VA- model.
For other indoor unit models could be the same difference.

OUTDOOR UNIT: GRV220C5TA-

COOLING

			Indoor Unit	Outdoor unit		Complete Unit
			Fan Motor	Fan Motor	Compressor	
performance at			230V 1-Phase 50 Hz			
Rating conditions	Running Amps.	A	0,39	0,55	12,1	13,0
	Power input	Kw	0,075	0,124	2,551	2,750
Full load conditions	Running Amps.	A	0,39	0,55	14,1	15,0
	Power input	Kw	0,075	0,124	3,101	3,300

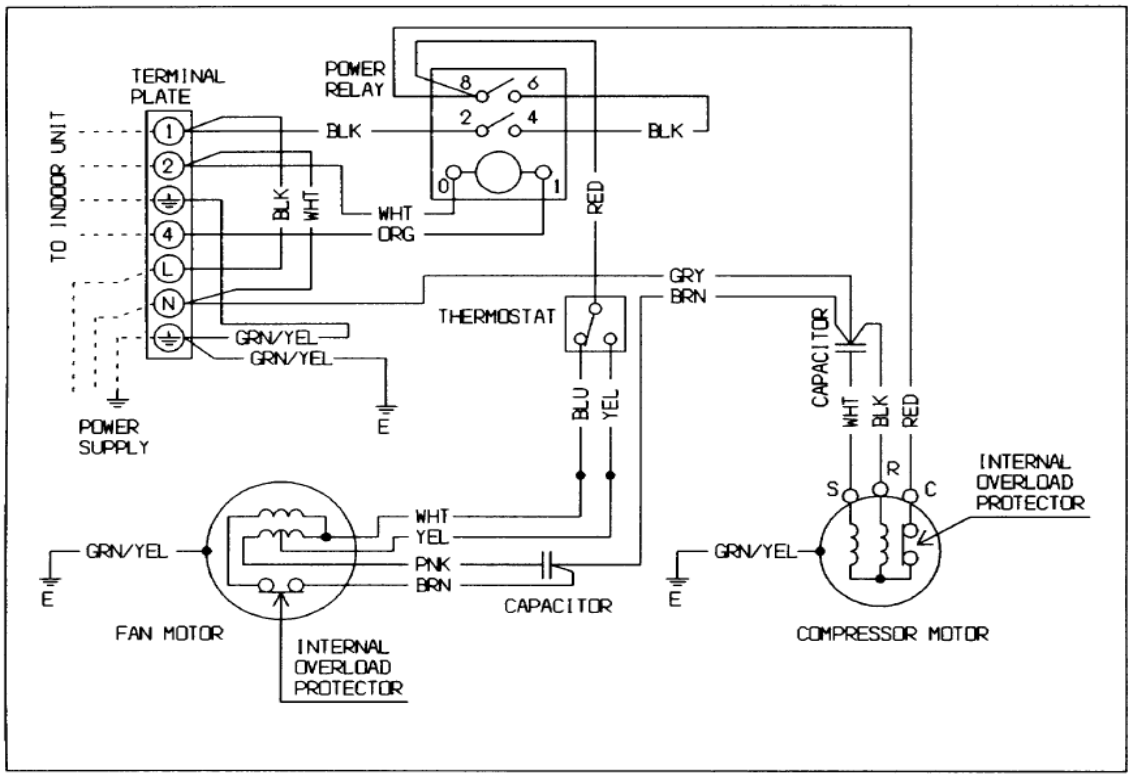
Rating Conditions: Indoor Air Temperature 27°C D.B. / 19°C W.B.
Outdoor Air Temperature 35°C D.B.
Full Load Conditions: Indoor Air Temperature 32°C D.B. / 23°C W.B.
Outdoor Air Temperature 43°C D.B.

NOTE: Data referred to indoor unit MCAV220C5VA- model.
For other indoor unit models could be the same difference.

6-2 Electric Wiring Diagram

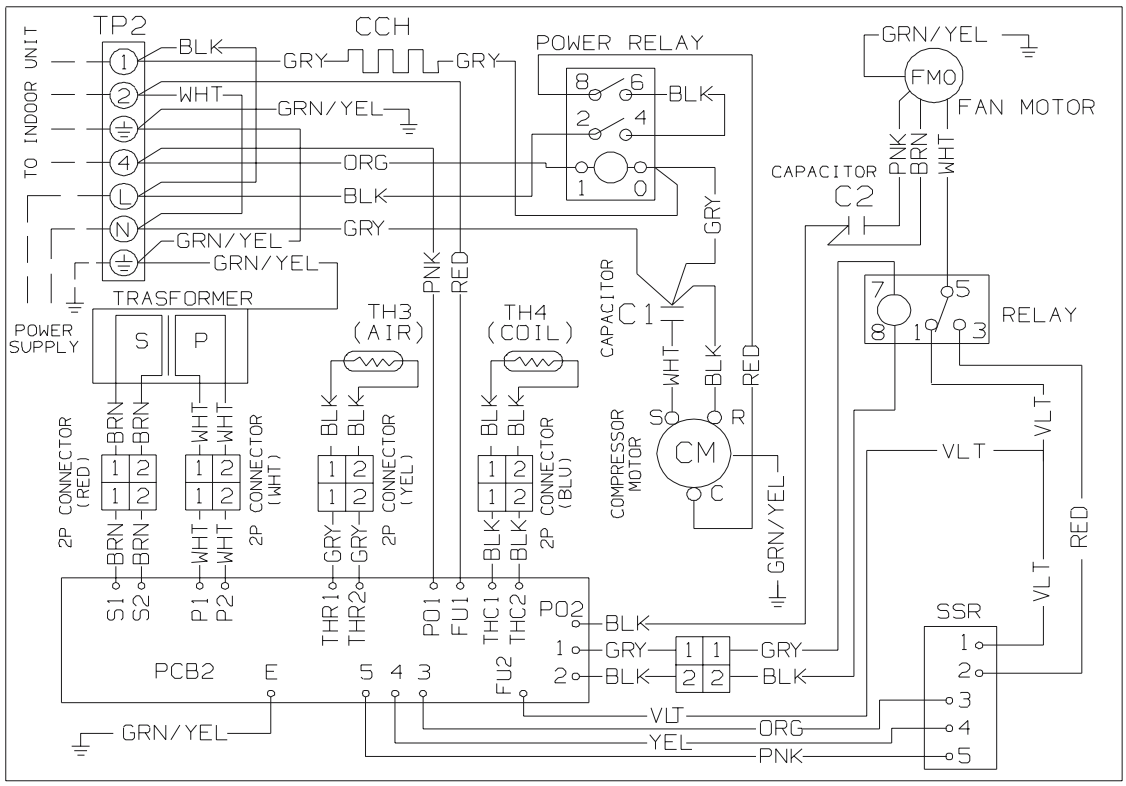
GRV180C5TA-
GRV180C5TAB-

OUTDOOR UNIT:



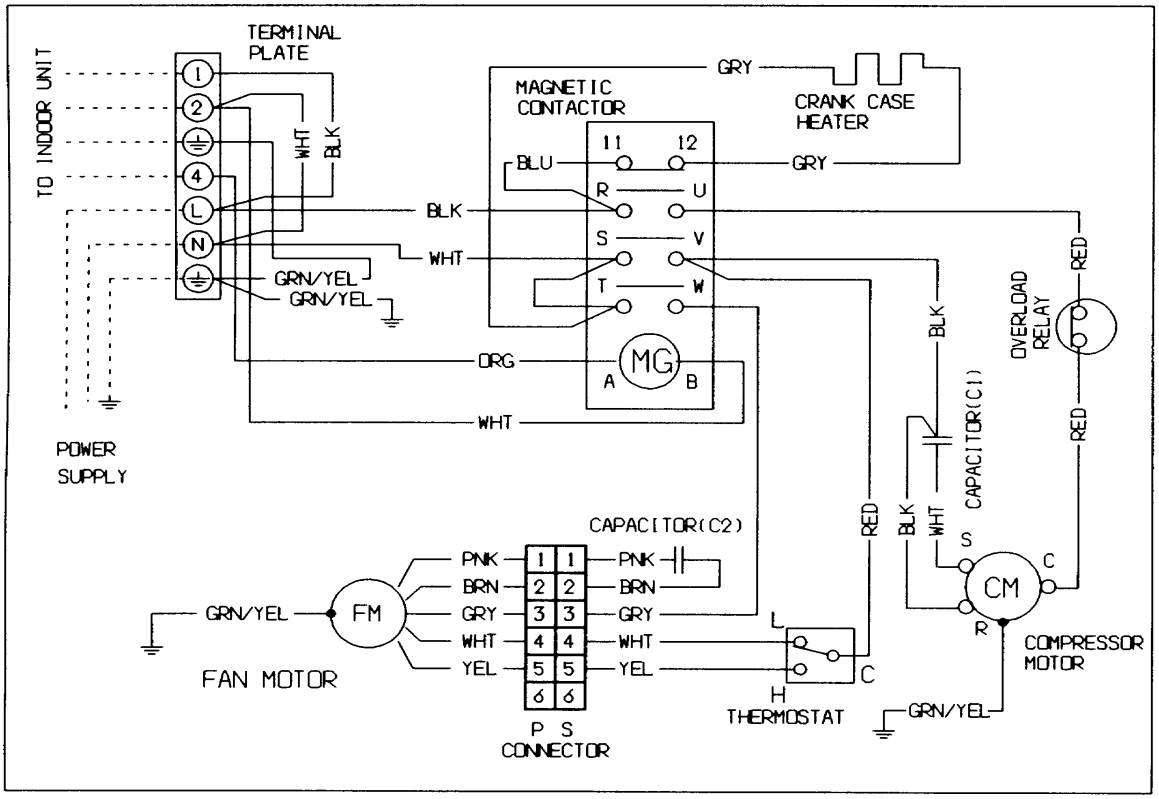
OUTDOOR UNIT:

GRV180L5TA-

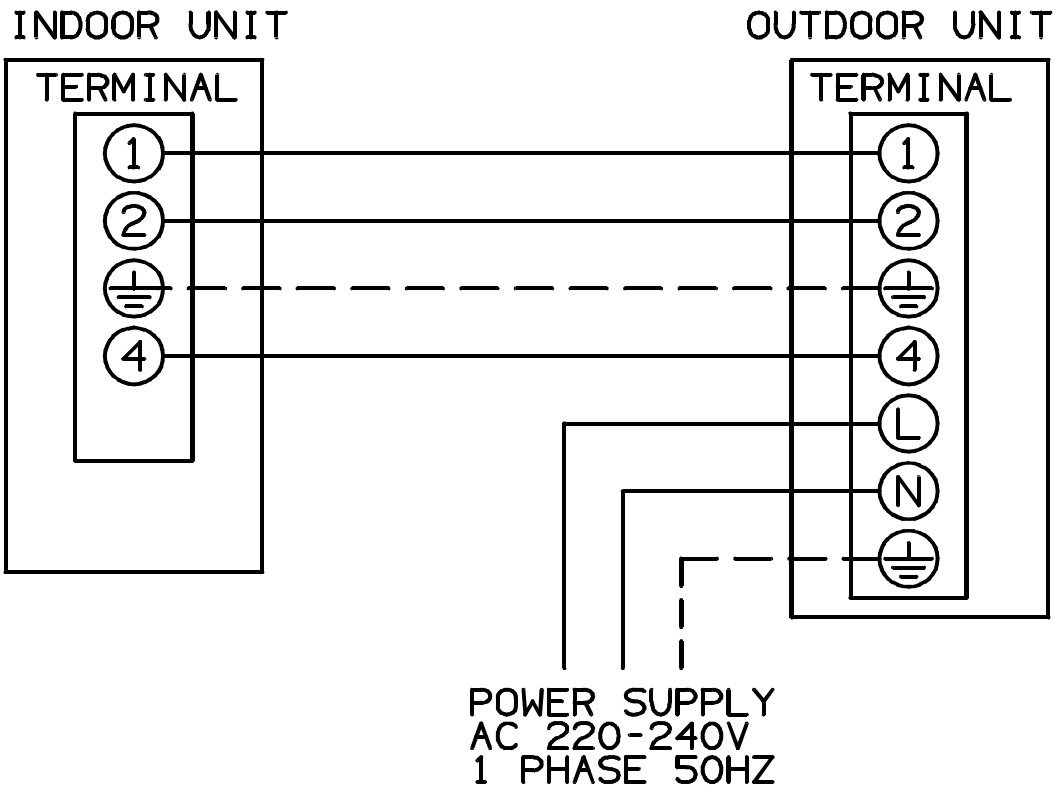


GRV220C5TA-

OUTDOOR UNIT:



6-3 System Wiring Diagram



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